NYSGA 2012 Guidebook - Instructions for Authors

Thank you for serving as a trip or workshop leader and guidebook author!

In order to make the guidebook consistent and to get it photocopied in a timely manner, here are some instructions for authors. Please submit your guidebook manuscript as a pdf.
The deadline for submission is September 1st.

1. Please see formatting guidelines on pages 2-3.

2. For those of you writing a road log (and most of you are), start your trip at a prominent, permanent landmark (e.g. an intersection of major roads) or at the first stop if it's easily locatable. There is no need to start your road log from Hamilton College unless the first stop is on the campus or nearby.

3. We highly recommend that you locate your stops and locations using latitude-longitude (decimal degrees). This will allow GPS users to find the locations later. You can locate your stops and determine the coordinates using Google Earth. In addition, we encourage you to create a Google Earth map of your field trip locations and save it as a kmz file. We'll upload kmz files to the NYSGA website for participants with tablet computers or smart phones to download before the meeting.

4. Please use the following format for road logs: mileage from the last stop, cumulative mileage, and a brief description of the route. Label the stops sequentially with a name and a latitude/longitude location. Here is an example:

Miles from last point	**Cumulative mileage**	**Route description**
0	11.5	Turn right out of parking lot onto Oneida Street.
3.5	15.0	Turn right (west) at blinking yellow light onto Paris Hill Road.
1.3	16.3	Bear right onto gravel road; do not go uphill to left
0.4	16.7	Park along road near small pond

Stop #2. The Potter Pegmatite (Lat: 45.849223, Long: -75.722701)

5. Page numbers should be centered at the bottom of each page. Please number the pages of your manuscript using the following convention:

- for Saturday only trips or workshops, the page numbers should be A (for Saturday) and trip number (see the NYSGA web site for your trip number) – page number. For example, if my Saturday-only trip is #3, my page numbers will be A3-1, A3-2, A3-3, etc.

- for Sunday only trips or workshops, the page numbers should be B (for Sunday) and trip or workshop number – page number (e.g. B2-1, B2-2, B2-3, etc.).

6. Please have one or more colleagues review your manuscript before you submit it. We will review them for consistency with the guidelines but not for content and grammar.

7. Please keep your manuscript concise – typically 10 to 20 pages – so we can keep the price of the guidebook down by minimizing photocopying charges.

8. We'll photocopy manuscripts in black and white only. If you have color figures or photos, please print them in black and white so you can review them for legibility before you submit your manuscript.

9. Don't forget: submit your manuscript as a pdf. The deadline for submission is September 1st. The guidebook editors reserve the right to send manuscripts that don't follow the guidelines back to authors.

NYSGA 2012 Guidebook Format

Modified after Geological Society of America Special Papers format
(http://www.geosociety.org/pubs/bookguid3.htm#2)

Page: 8.5 x 11"
Margins: L 1.25", R 1.0", T 1.0", B 1.0". We'll print double-sided, so please select the Mirror Margins box so that right side pages have the 1.25" margin on the left, and left side pages have the 1.25" margin on the right. (Start all manuscripts with the title page as the first page, 1.25" left margin).

In Word 2011 for Mac: Format > Document > check the Mirror Margins box and make the Inside Margin 1.25". All other margins should be 1".

In Word 2010 for Windows: in the Page Layout tab, click on Margins. Select Mirrored. This option automatically gives margins of 1.25" inside and 1" on all others.

Font: Times New Roman, 12 pt
(except for title (14 pt), and references and figure captions (10 pt))
Line Spacing: 1.5 (except references and figure captions – single space)
Paragraph Indentation / Tabs: 0.3"
In Text Citations: (Author Date)

Body of Text:

Title

- First word begins with uppercase letter; all other words begin with lowercase letters, except for proper nouns; boldface and italic, centered on page, 14 pt font
- Author names in 12 pt bold font centered; author's affiliation, address, and e-mail in 12 point plain font.

First-level subhead

BOLD CAPS
(flush left; two line spaces above and one below)

Second-level subhead

Bold, Initial Caps
(flush left; one line space above, none below)

Third-level subhead

Bold, Italic, Initial Caps
(flush left; one space above, none below)

Fourth-level subhead

Bold, italic, sentence capitalization.
(indented 0.3"; run into text, with a period)

References Cited (alphabetical by first, then second author)

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Following is a partial document that illustrates most of the formatting features described above:

Pegmatites of New York State: The Batchellerville pegmatite

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INTRODUCTION

Despite their interesting petrographic features, geological associations, and mineral assemblages, there are only a few modern scientific studies on the pegmatite bodies of New York State (Tan 1966; Putman and Sullivan 1979). The pegmatites are found in two geological units: the Grenville-age (1300 - 1000 Ma) metamorphic rocks of the Adirondack Mountains (Figure 1) and the Taconic-age (~ 450 Ma) metamorphic rocks of southern New York. There are approximately 25 significant pegmatite bodies known in New York, and they can be placed into six different geologic / geographic groups:

A. The Bedford pegmatite district consisting of the amazonite- and the peristerite-bearing pegmatites at Valhalla in Westchester County, and the small pegmatite bodies in the Taconic-age metamorphic rocks of the Manhattan Prong (New York City) that are xenotime, or beryl- and chrysoberyl-bearing;
B. The Cranberry Creek (Mayfield), Batchellerville, Greenfield, Day (Overlook), and Corinth belt of pegmatites in the southern Adirondack Highlands;
C. The Crown Point, Rose Rock, Spar Bed Hill, Chestertown, and Fort Ann pegmatites in the central-eastern Adirondack Highlands;
D. The Scott Farm - Benson Mines pegmatite belt in the northwestern Adirondack Highlands;
E. The Lyons Falls and Stiles Farm pegmatites in the western Adirondacks; and
F. The McLear and other small pegmatite bodies in the Adirondack Lowlands.

HISTORY

General

Interest in the pegmatites of New York started with the rush to find and mine high-quality feldspar in the second half of the nineteenth century. The second stage for pegmatite exploration began in 1950 when the USGS initiated a nationwide search for uranium resources. The first attempt to mine pegmatites in New York State began around 1878 at the Bedford pegmatite. Mining at Bedford lasted until 1949, and in 1962 and 1963 the dumps and most of the mine structures were leveled to build houses (Tan 1966).

The pegmatites in the east central Adirondacks were first mined for enamel, crushed stone, grit for chicken feed, and on a smaller scale, for quartz used in glass manufacturing. Mining began in the late nineteenth century and lasted until around 1926 (Tan 1966).

In the northwestern Adirondacks, the McLear pegmatite was discovered in 1907. Here, feldspar was found in high-quality masses 6 in to 3 feet in length with no iron staining, but with rare grains of pyrite as inclusions. The quarry was worked by the White Hill Mineral Company until 1937, and after that, by the Green Hill Mining Company. The feldspar that was mined was shipped to Trenton, New Jersey, and used in the ceramics industry. The mine was closed around 1938 (Tan 1966).

Batchellerville

The Batchellerville pegmatite is located in the south-central Adirondacks, in the northwestern corner of the Broadalbin 7.5" quadrangle, Saratoga County. The pegmatite was discovered on the Adelbert Gordon Farm, and in 1906 the Clapska Mining Company from Trenton, New Jersey began mining the feldspar. The pegmatite was worked continuously until 1921 and sporadically until about 1934 (Tan 1966). The main product was high-quality microcline for the ceramics industry (Tan 1966). A secondary product, very coarse muscovite, was typically sought after as a dielectric material. However, microgranular iron oxide inclusions and staining made most of it unsuitable for electrical applications (Tan 1966).

The nearby Cranberry Creek (Mayfield) pegmatite on the Richard Tyrell Farm was exploited at about the same time as the Batchellerville pegmatite by the Clapska Mining

Company, which later transferred it to the United States Feldspar Corporation (Tan 1966). The mining stopped here shortly before 1916. The Overlook (Day) body was worked until 1920. The Corinth prospect was mined first in 1899 by American Feldspar Company (Bastin 1910) and then transferred to the local Corinth Feldspar Company (Tan 1966).

Tan (1966) identified and named eight distinct pegmatite bodies that were mined at the Batchellerville property (Figure 2).

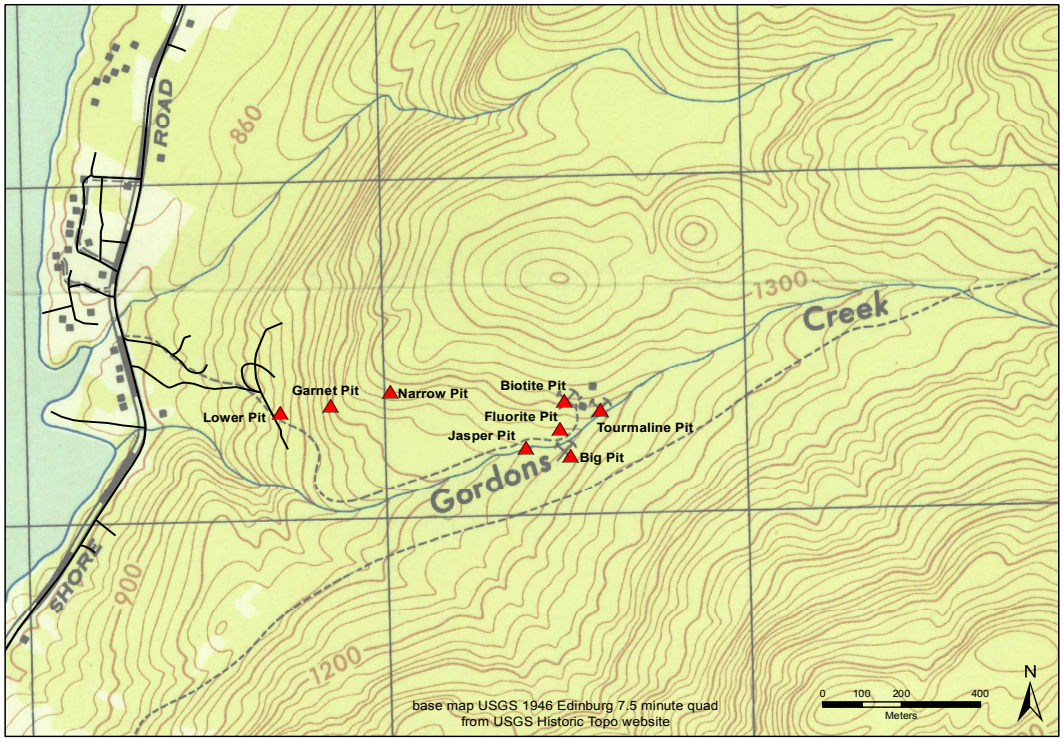

Figure 2: Map of the Batchellerville Pegmatite showing locations of eight distinct mine / exploration pits (modified after Tan (1966)).

The two largest excavations were at the Lower Pit and at the Big Pit, although both are still less than 150' in any dimension (Tan 1966). The pits appear to have worked a series of small tabular bodies with roughly E-W trends. The larger bodies exhibited mineralogical zonation, with quartz-rich cores and with Al-rich phases (muscovite, biotite, sillimanite, garnet, etc.) concentrated in the outer zones or along the contact with the surrounding biotite gneiss (Tan 1966).

GEOCHRONOLOGY

General

There are no modern or precise age data on the pegmatites emplaced in the Taconian-age rocks from the Manhattan Prong in southern New York (Bedford, Valhalla, and New York City). Most of the pegmatites from the Adirondacks were generated and emplaced during the late Elzeverian, Shawinigan, Ottawan, and Rigolet orogenies of the Grenville Orogenic Cycle (Figure 1)(Lupulescu et al. 2011). The oldest pegmatite ages reported are from the McLear pegmatite in the Adirondack Lowlands (1195 ± 7.2 Ma); the youngest pegmatite ages are on the Mayfield pegmatite in the southern Adirondack Highlands (1009 ± 22 Ma) (Lupulescu et al. 2011).

Batchellerville

Zircon Geochronology

One zircon crystal from the Batchellerville pegmatite was analyzed by LA-MC-ICPMS for an U-Th-Pb age. The crystal contained between 1562 and 5204 ppm uranium and a very high U/Th ratio (up to 189) and was almost completely metamict. Based on the concordant analysis within the analytical error of the upper concordia intercept, the crystallization age of this zircon was interpreted to be 1090 ± 28 Ma (Lupulescu et al. 2011).

Monazite geochronology

Monazite-(Ce) was found in the Batchellerville pegmatite as crystals up to 8 cm in length. One monazite crystal was analyzed by electron probe for chemical ages. The sample contains 18.1 Ce, 17.01 Th, 7.89 La, 7.12 Nd, and 1.69 Y (all in wt. % element). The crystal is fractured and contains tiny thorite crystals. Back-scattered electron images revealed a nearly homogeneous crystal with some patchy, lower atomic number areas. Twenty-four analyses on the crystal far from the fractures or inclusions yielded an average age of 874 ± 27 Ma; analyses closer to the fractures and from the darker, low-intensity backscatter areas yielded an average of 751 ± 71 Ma and 844 ± 33 Ma respectively (Lupulescu et al. 2011).

There are two ways to interpret the differences in the zircon and monazite ages (Lupulescu et al. 2011): 1) the zircon age is the intrusion age of the pegmatite and the monazite formed later, possibly as a result of the infiltration of crustal fluids during uplift, or, 2) the zircon age represents inheritance and the chemical age obtained on the monazite is the real age of the pegmatite. In the first scenario, the intrusion of the Batchellerville pegmatite would be associated with the early manifestation of the Ottawan phase of the Grenville orogeny; in the second, the pegmatite would have been entirely post-Grenville, an interpretation supported by the lack of any significant deformational features within the pegmatite itself (Lupulescu et al. 2011).

Characteristic of all pegmatites, mineral sizes at Batchellerville vary from a few millimeters to tens of centimeters in length. Minerals occur in coarse- to fine-grained aggregates of anhedral to subhedral crystals.

Quartz, feldspar and mica are the most abundant mineral phases in the Batchellerville pegmatite. Quartz and feldspar commonly occur as the characteristic “graphic granite” texture most often associated with pegmatites (Figure 3). Quartz occurs in a variety of colors including clear, “milky” white, rose, and smoky varieties. Some rose quartz exhibits an internal play of color, and the smoky quartz ranges from light gray to black in color (Seadler 2011). Perthitic microcline and albite occur at the Batchellerville pegmatite in pink, white, and green-gray varieties (Seadler 2011). Though located in all of the pits, quartz, feldspar and mica appear most abundantly in the Lower Pit of the Batchellerville pegmatite. A dark brown annite-phlogopite is the most common mica associated with the pegmatite, followed by muscovite. Each of these micas occurs in massive aggregates and small- to moderate-sized books (up to 30 cm in diameter).

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ROAD LOG

The field trip will depart from Hamilton College at 7:30 AM and return around 5 PM. The Road Log starts at the intersection of NY State Thruway Exit 27 (Amsterdam) ramp and NY-30N.

Miles from Last Point	Cumulative Mileage	Description
0.0	0.0	Intersection NY-30 N and Thruway Exit 27 ramp. Head NORTH on NY-30 N.
1.0	1.0	Bear left. Stay on NY-30 N.
7.9	8.9	At traffic circle, continue straight on NY-30 N.
0.4	9.3	Go straight; take Co Rd 155 (Do NOT take NY-30 N)
1.1	10.4	In Broadalbin. Continue onto Co Rd 110/117 (N Main St)
0.9	11.3	Bear right, continue on Co Rd 110
1.1	12.4	Bear left, continue on Co Rd 110
6.5	18.9	Continue straight onto Co Rd 7 (S Shore Rd)
4.7	23.6	Slight right to stay on Co Rd 7 (S Shore Rd)
2.4	32.8	Get permission to park.

STOP #1: Access Road to Batchellerville Pegmatite Pits

**NOTE: The Batchellerville pegmatite is on private property; trespassing is not allowed! Permission is required before entering the property for any reason. We are extremely fortunate that the landowner has allowed us to access the site for this field trip. Please do not jeopardize the possibility of future trips for scientific research by trespassing and/or any large-scale mineral collecting activities.

Stop 1a). The "Lower Pit" (Lat: 43.23917, Long: -74.06146)
Stop 1b). The "Big Pit" (Lat: 43.23816, Long: -74.05219)
Stop 1c). The "Garnet Pit" (Lat: 43.23953, Long: -74.05979)